

Rush

Work Order ID 84763

84763

Page 1

May-23-12 7:11:35 AM

Item ID: D4202-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Spacer

Start Date: 5/23/12

Start Qty: 400.00

400

Cust Item ID:

Required Date: 5/31/12

Req'd Qty: 400.00

400

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4202

C

100

0.00

100

Hardinge

Hardinge CNC LATHE SMALL

Memo

0.00

Hardinge CNC Lathe Small

1- Machine as per Folio FB015.

FOLIO REV: AK

DWG REV: C

2- Deburr

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

Re 12.5.29 400

24 12.5.29 400

Work Order ID 84763

84763

Page 2

May-23-12 7:11:35 AM

Item ID: D4202-1

Revision ID:

Item Name: Spacer

Start Date: 5/23/12

Start Qty: 400.00

Required Date: 5/31/12

Req'd Qty: 400.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.00

Quality Control

130

Outsource process - Heat Treat

0.00

130

Outsource1

Memo

0.00

Outsource process - Heat Treat

HEAT TREAT AS PER DWG D4202

140

Receive & Inspect for Damage & Mat'l Certs

0.00

140

Packaging

Memo

0.00

Packaging

Ma 12/05/29

~~D/O: 17136~~
D/O: 17265

~~CY 12106105~~ 400
~~12106105~~
CZ 12106120 400
~~12106118~~ (400)
12106103 (400)

Work Order ID 84763

84763

Page 3

May-23-12 7:11:35 AM

Item ID: D4202-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Spacer

Start Date: 5/23/12 Start Qty: 400.00

400

Cust Item ID:

Required Date: 5/31/12 Req'd Qty: 400.00

400

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

QC6- Inspect dimensions to drawing

0.00

150

QC

Memo

0.00

Quality Control

190

Identify as per dwg & Stock Location: LG

0.00

190

Packaging

Memo

0.00

Packaging

STOCK IN SKIDTUBE CELL

200

QC21- Final Inspection - Work Order Release

0.00

200

QC

Memo

0.00

Quality Control

7400
ET4

400X

SP
12-7-3

12/7/4

MF
12-09-03

Picklist Print

May-23-12 7:11:34 AM

Page 1

Work Order ID: 84763

Parent Item: D4202-1

Parent Item Name: Spacer

Start Date: 5/23/12

Required Date: 5/31/12

Start Qty: 400.00

Required Qty: 400.00

Comments: IPP REV:A NEW ISSUE 10-12-07 JLM VERIFIED:DD IPP REV:B AS PER REV B 11-04-05 JLM VERIFIED BY:DD IPP Rev:C 11.12.19 PER DWG REV.C DD verf:EC

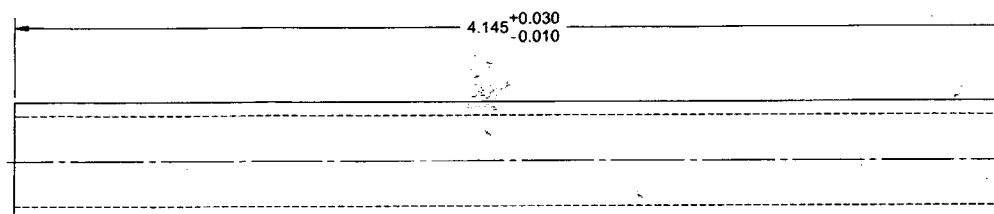
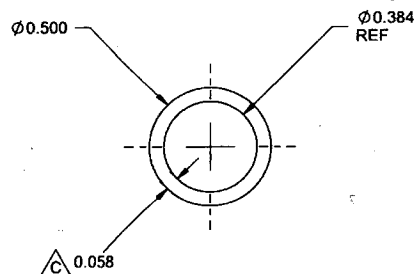
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6T0.500W.058 6061-T6 RD Tube .500 x.058W		Purchased	No			100	f	356.3730	0.35	147.36842			

Location	Loc Qty	Loc Code
MAT014	356.373	
117084	23.242	
117890	0.1	
119160	1.914	
120935 ✓	331.117	

29 R.5-29

142

161



D4202-1 SPACER

u/080763

RELEASED
2011-12-14

- NOTES:**
- 1) MATERIAL: 6061-T4/T42 ALUMINUM TUBING PER WW-T-700/6, AMS 4081, OR ASTM B210 / B221 / B241
REF DART SPEC M6061T4T0.500W.058
OR
6061-T6/T62 ALUMINUM TUBING PER WW-T-700/6, QQ-A-200/8, QQ-A-225/8, AMS 4080 / 4082, OR ASTM B210 / B221 / B241
REF DART SPEC M6061T6T0.500W.58
HEAT TREAT TO -T4/-T42 CONDITION. MIN UTS = 30 KSI (60 HREW MIN)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.03 lbs

C	6061-T4 WAS 6061-T6, 0.058 WAS 0.049	CP	11.12.13
B	0.049 WAS 0.058. REASON: FACILITATE MFG	MB	11.03.22
A	NEW ISSUE	CP	10.09.22
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.12.13		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D4202	REV. C
TITLE SPACER	SHEET 1 OF 1
	SCALE NTS

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NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE LTD



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO17136**

Purchase Order Date 6/05/12

PO Print Date 6/08/12

Page Number 1 of 1

Order From :

VC-MET004

METCOR INC.
560 BOUL. ARTHUR SAUVE
SAINT-EUSTACHE, QC J7R 5A8
CA

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

450 473 1884

450 491 5498

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
17-3		D4202-1 SPACER	6/13/12 Yes	400.00	FedEx PI collect	\$0.9900	\$396.00

Special Inst: HEAT TREAT TO -T4/T62 CONDITION
MIN.UTS = 30KSI (60HREW MIN.)
PART ARE MADE WITH 6061-T6 HEAT
TREAT TO T4

NOTE: A DETAIL C OF C REQUIRED

PO Total: \$396.00

CERTIFICATE OF CONFORMITY
REQ'D UPON DELIVERY

Change Nbr: 3

Change Date: 6/08/12

No substitution or deviation without
consent.

Certificate of Conformity or Material
Certification required YES NO

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Recu de Livraison

Order	Shipper	Shipping Seq.
176652	1	61854

Shipped Complete

Customer **215**
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Shipped To:
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Purchase Order Number	Customer Shipper No.	Material Type	Order Date	Carrier
PO17136		AL-6061	2012/6/7	UPS
Quantity	Part No. / Part Name / Part Description			Pounds
400	D4202-1 SPACER			13,

CONTENANT: 1 BOÎTE DE CARTON

Container Type	# Of Containers	Container Comments
BOITE DE CARTON	1	

CERTIFICAT

PACKING	
----------------	--

Quantity Shipped: 400
Pounds Shipped: 13,00
Quantity Remaining: 0
Pounds Remaining: 0,00

CERTIFICAT

Quantity Shipped: 400

Pounds Shipped: 13,00

Signature:

Date:

Shipped ON: 2012/06/15



Metcor Inc.
560, boul. Arthur-Sauvé
St-Eustache (Québec) J7R 5A8
Tél. : 450-473-1884
Télécopieur / Fax administration : 450-491-5495
Télécopieur / Fax production : 450-491-6474

Certificat de conformité
Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
176652	1

CLIENT / customer 215
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY ON K6A 1K7

LIVRÉ À / shipped to:
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY ON K6A 1K7

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PO17136		AL-6061		

SPÉCIFICATIONS DU PROCÉDÉ
processing specifications

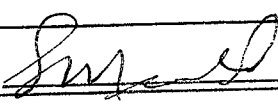

ANNEAU
D'ÉVALUATION TO CONDITION T8
D'ÉVALUATION

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
CONDUCTIVITY	40 - 50 %IACS	40	43 - 44 %IACS
HARDNESS	85 HREW MIN	40	90 - 94 HREW

DURETÉE MESURÉE EN HR15TW = 79-81
HR15TW

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
400	13	D4202-1 SPACER
		CONTENANT: 1 BOÎTE DE CARTON

COMMENTAIRES / comments

INSPECTEUR / inspector:   DATE: 2012-06-14

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
176652	1

CLIENT / customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PO17136		AL-6061		

SPÉCIFICATIONS DU PROCÉDÉ processing specifications

SOL ANNEAL
SINGLE AGING TO CONDITION T6
AMS 2770 REV.J

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
CONDUCTIVITY	40 - 50 %IACS	40 (60kHz)	43 - 44 %IACS
HARDNESS	85 HREW MIN	40	90 - 94 HREW DURETÉE MESURÉE EN HR15TW = 79-84 HR15TW

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
400	13	D4202-1 SPACER REF.: 84763 CONTENANT: 1 BOÎTE DE CARTON

Operation	Temp. spécifiée Specified Temp	Temps de trempe Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
1.00 CONT. INIT.										
2.00 Degrease										
3.00 PREPARING	COMPTAGE									
4.00 PREHEAT 1	529°C	0:30	air			701				
5.00 WATER TEN										
6.00 SOL ANNEAL	529°C	0:35	AIR		WATER 32MAX	701				

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
176652	1

CLIENT / customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

Operation	Temp. spécifiée Specified Temp	Temps de trempe Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
7.00 QUENCHDE										
8.00 WATER TEN										
9.00 PREPARING										
10.00 AGE HARDE	177°C +/-6°C	8 hrs	air			702				
11.00 HARDN INS										
12.00 CONDUCT										
13.00 FINAL INSP							06-14-2012			06-14-2012

COMMENTAIRES / comments

APPROUVÉ par / Approved by:

DATE: 2012-06-15

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client./We certify that all the information on this report is exact and in accordance with the order requirements.

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ

ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
177112	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
P017265		AL-6061		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

SOL-ANN-AGE

SINGLE AGING TO CONDITION T42

87107103

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
CONDUCTIVITY	35 - 43 %IACS	60 (60kHz)	37 - 39 %IACS
HARDNESS	60 HREW MIN	60	69.5 - 72 HREW DURETEE MESUREE EN HR15TW = 67.5-68.8 HR15TW

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
600	20	D4202-1 SPACER (200) 83263 (400) 84763 CONTENANT : 1 BOITE DE CARTON

Operation	Temp. spécifiée Specified Temp	Temps de trempe Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
1.00 CONT. INIT.										
2.00 Degrease										
3.00 PREPARING	COMPTAGE									
4.00 PREHEAT 1	529°C	0:30	air			701				
5.00 WATER TEN										

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
177112	1

CLIENT / customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

1

Operation	Temp. spécifiée Specified Temp	Temps de trempe Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
6.00 SOL ANNEA	529°C	0:35 +/- 5 min	AIR		WATER 40MAX	701				
7.00 QUENCHDE										
8.00 WATER TEM										
9.00 PREPARING										
10.00 AGE HARDE		96:00								
11.00 HARDN INS										
12.00 CONDUCT										
13.00 FINAL INSP							06-27-2012			06-27-2012

COMMENTAIRES / comments

APPROUVÉ par / Approved by:

Vincent Carstén

DATE: 2012-06-28

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client./We certify that all the information on this report is exact and in accordance with the order requirements.



Metcor Inc.
560, boul. Arthur-Sauvé
Dartmouth, N.S. B3A 1P8
Tél. (902) 443-3800
Tél. client 1-800-491-5498
Tél. télécopieur 1-800-491-5454

Certificat de Conformité
Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
177112	1

CLIENT / customer 215
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY ON K8A 1K7

LIVRÉ À / shipped to:
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY ON K8A 1K7

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PC17265		AL-8061		

SPECIFICATIONS DU PROCÉDÉ
processing specifications

SOL-ANN-AGE
SINGLE AGING TO CONDITION T42

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
CONDUCTIVITY	35 - 43 %IACS	80	37 - 39 %IACS
HARDNESS	80 HREW MIN	80	69.5 - 72 HREW
DURETÉE MESURÉE EN HR15TW = 67.5-68.8 HR15TW			

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
600	20	D4202-1 SPACER (200) 83263 (400) 84763 CONTENANT : 1 BOITE DE CARTON

COMMENTAIRES / comments

INSPECTEUR / inspector:   DATE: 2012-06-27